ABSTRACT

In a method of fabricating a giant magnetoresistive (GMR) device a plurality of magnetoresistive device layers is deposited on a first silicon nitride layer formed on a silicon oxide layer. An etch stop is formed on the magnetoresistive device layers, and a second layer of silicon nitride is formed on the etch stop. The magnetoresistive device layers are patterned to define a plurality of magnetic bits having sidewalls. The second silicon nitride layer is patterned to define electrical contact portions on the etch stop in each magnetic bit. The sidewalls of the magnetic bits are covered with a photoresist layer. A reactive ion etch (RIE) process is used to etch into the first silicon nitride and silicon oxide layers to expose electrical contacts. The photoresist layer and silicon nitride layers protect the magnetoresistive layers from exposure to oxygen during the etching into the silicon oxide layer.

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